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| APPLICATION NO.   | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO.           | CONFIRMATION NO. |
|---|-------------|----------------------|-------------------------------|------------------|
| 09/759,806  | 01/12/2001  | David R. Shafer      | (Z) 00004 P US                | 2729             |
| 7590 03/29/2004<br>MELVIN C. GARNER<br>DARBY & DARBY P.C.<br>805 THIRD AVENUE<br>NEW YORK, NY 10022 |             |                      | EXAMINER<br>RAIZEN, DEBORAH A |                  |
|   |             |                      | ART UNIT<br>2873              | PAPER NUMBER     |

DATE MAILED: 03/29/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/759,806

Applicant(s)

SHAHER, DAVID R.

Examiner

Deborah A. Raizen

Art Unit

2873

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☐ Responsive to communication(s) filed on 22 December 2003 and 11 February 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 2-6,8-10 and 12-45 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 3-6,8-10,12,13,15-18,20-28,30,32-36 and 39-45 is/are allowed.
- 6) ☒ Claim(s) 2 and 19 is/are rejected.
- 7) ☒ Claim(s) 14,29,31,37 and 38 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 January 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 1203 & 0204.
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### *Drawings*

1. The drawings were received on January 21, 2004. These drawings are accepted.

### *Claim Rejections - 35 USC § 102*

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 2 and 19 are rejected under 35 U.S.C. 102(b) as being anticipated by Freeman, Optics & Vision Limited (WO 94/06047, cited in applicant's IDS of 12/22/2003 and 2/11/2004).

In regard to claim 2, Freeman discloses a microlithographic reduction projection (intended use that does not add structural limitations) catadioptric objective (Fig. 3 and the table on page 5 and 6) having an object side (left) and an image side (right) and a plurality of curved mirrors (front surface mirror 35 and Mangin-type mirror 37), wherein directly after a most imageward curved mirror (Mangin mirror 37) the beam diverges (Fig. 3).

In regard to claim 19, the Freeman objective comprises an intermediate image (between surfaces 39 and 40) with at least two mirrors (35 and 37) arranged upstream in the path of the beam (Fig. 3).

***Double Patenting***

4. Claim 31 is objected to under 37 CFR 1.75 as being a substantial duplicate of claim 28.

When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k). Applicant's amendment necessitated this objection.

***Allowable Subject Matter***

5. Claims 14, 29, 37, and 38 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: The prior art taken either singularly or in combination fails to anticipate or fairly suggest the limitations of claims 14, 29, 37, and 38 in such a manner that a rejection under 35 U.S.C. 102 or 103 would be proper.

The prior art fails to teach a combination of all the features in claim 14. For example, these features include the detailed structure recited in claim 2 and also the limitation, in sequence from the object side to the image side, a field lens group, a catadioptric group comprising one or more negative lenses and a concave mirror, generating axial chromatic aberration, and a group comprising an odd number of mirrors, in combination with all the other limitations of the claim.

Art Unit: 2873

The prior art fails to teach a combination of all the features in claim 29. For example, these features include the detailed structure recited in claim 2 and also the limitation, an excimer light source, in combination with all the other limitations of the claim.

The prior art fails to teach a combination of all the features in claim 37. For example, these features include the detailed structure recited in claim 2, all the limitations recited in claim 14, and also the limitation "curved" in line 5.

In regard to claim 38, see paper no. 13, CTNF 07/21/2003.

6. Claims 3-6, 8-10, 12, 13, 15-18, 20-28, 30, 32-36, and 39-45 are allowed.

The following is an examiner's statement of reasons for allowance: The prior art taken either singularly or in combination fails to anticipate or fairly suggest the limitations of claims 3-6, 8-10, 12, 13, 15-18, 20-28, 30, 32-36, and 39-45, in such a manner that a rejection under 35 U.S.C. 102 or 103 would be proper.

In regard to claims 3, 5, 10, 12, 17, 18 (now amended to depend on claim 17), 22, 23 (now depending indirectly on claim 17), 24, 25, 32 (claims 25 and 32 now depend on claim 41), 34, 35, 36, and 41-45 see paper no. 13, CTNF 07/21/2003.

The prior art fails to teach a combination of all the features in claim 4. For example, these features include the detailed structure recited, especially the limitation, free of central obscuration of an aperture, in combination with all the other limitations of the claim.

Applicant's arguments on page 11 of Remarks, submitted 12/22/2003, and also Applicant's remarks in regard to the term "central obscuration of an aperture" in Remarks, submitted

Art Unit: 2873

4/15/2003, have been considered and are persuasive. Although applicant has not established that the references of record define the term in a manner that clearly excludes the prior art references on which the rejections were based, the examiner accepts applicant's assertion that the standard usage of the term in the art does exclude those references.

Claims 15, 16, 27, 30, and 39 depend on claim 4 and are therefore allowed as well.

The prior art fails to teach a combination of all the features in claim 6. For example, these features include the detailed structure recited, especially the limitations, having ... curved mirrors and being devoid of planar folding mirrors, comprising an aperture plane on the image side of a most imagedward curved mirror, in combination with all the other limitations of the claim.

Claims 9, 20, 21, 26, 28, and 40 depend on claim 6 and are therefore allowed as well.

The prior art fails to teach a combination of all the features in claim 8. For example, these features include the detailed structure recited, especially the limitations, wherein at least two curved mirrors face one another and are free from any lenses being physically therebetween, in combination with all the other limitations of the claim.

Claims 33 and 42 depend on claim 8 and are therefore allowed as well.

The prior art fails to teach a combination of all the features in claim 13. For example, these features include the detailed structure recited, especially the limitation, a most imagedward mirror is convex, in combination with all the other limitations of the claim.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

### ***Conclusion***

7. Applicant's submission of an information disclosure statement under 37 CFR 1.97(c) with the fee set forth in 37 CFR 1.17(p) on December 22, 2003, prompted the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 609(B)(2)(i). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. U.S. 6,636,350 (application 09/761,562), which claims priority to the same

Art Unit: 2873


provisional application as the current application, has issued to Shafer et al. The amendment submitted on December 22, 2003, appears to have overcome the double patenting rejections.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Deborah A. Raizen whose telephone number is (571) 272-2336. The examiner can normally be reached on Monday-Friday, from 10:00 a.m. to 3:00 p.m. Eastern Standard Time (a part-time schedule).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Georgia Y. Epps can be reached at (571) 272-2328. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306 (please note that this number is different from the previous two numbers provided until the summer of 2003).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

dar

  
Scott J. Sugarman  
Primary Examiner